Chapter-7

Chapter Name DIVISION

STUDY NOTES

Learning Objectives:-

*** Division is repeated subtraction**

*** Properties of division**

*** Let us revise**

*** Long division method**

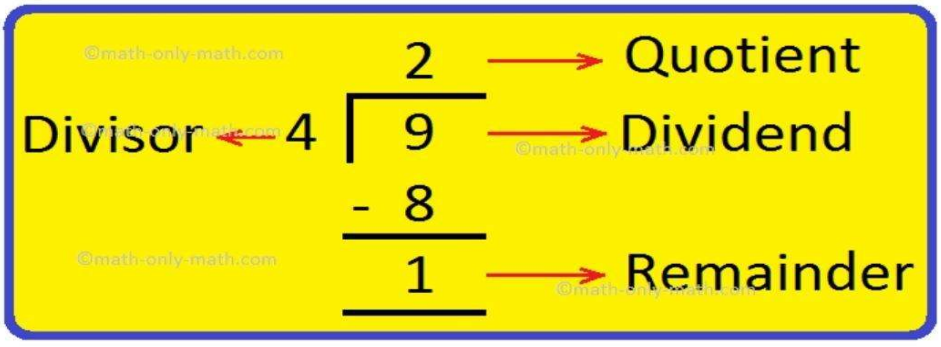
*** Word problems**

***Division is repeated subtraction**

- There are four terms of division.

_Divisor ,dividend, quotient,remainder.

_For example- 9÷4 =2



***Properties of division.**

DIVISION BY 1 PROPERTY

- Any number divided by 1 will result to the number itself as its quotient

Examples:
- 29 ÷ 1 = 29
- 825 ÷ 1 = 825
- 5,240 ÷ 1 = 5,240

Try these:
349 ÷ 1 = 9,163 ÷ 1 =

DIVISION BY ITSELF PROPERTY

- Any number divided by itself will result to 1 as its quotient

Examples:
- 47 ÷ 47 = 1
- 594 ÷ 594 = 1
- 5,485 ÷ 5,485 = 1

Try these:
485 ÷ 485 = 6,193 ÷ 6,193 =

DIVISION OF ANY NUMBER BY 0 PROPERTY

- A division of a number by 0 is meaningless: the divisor can never be zero

Examples:
- 92 ÷ 0 = meaningless
- 193 ÷ 0 = meaningless
- 3,459 ÷ 0 = meaningless

IAL GROUP
ng your Tomorrow

***Let Us Revise**

-Let us revise the concept of division ,with help of some examples.

- Division helps us to form groups equally.

-Division is also repeated subtraction.

1. A basket has 18 apples which are to be shared equally among 3 children. How many apples will each child get ?

18 − 3 ← 1
15 − 3 ← 2
12 − 3 ← 3
9 − 3 ← 4
6 − 3 ← 5
3 − 3 ← 6
0

Each child will get ☐ apples.

2. Surbhi wishes to share 15 pencils equally among her 5 friends. How many pencils will each friend get ?

Everyone has _____ pencils.
We write 15 ÷ 5 = _____

3. Put 10 birds equally in 2 nests. How many birds will be there in each nest ?

Nest 1 : ____ birds. Nest 2 : ____ birds.

***We can also perform division with the help of a number line.**

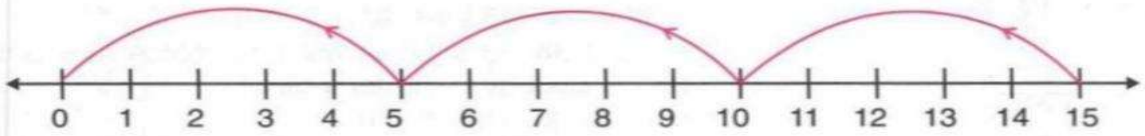
-We have to jump from the given numbers reverse until we reach to 0.

-Then we have to find out,how many times we have jumped to reach to '0'.

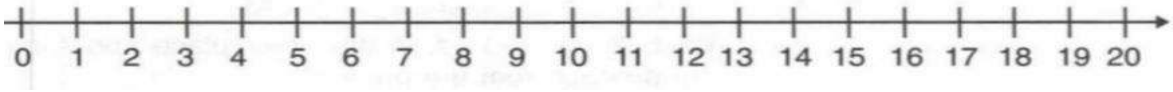
Let's see an example:-

ODM EDUCATIONAL GROUP
Changing your Tomorrow

15 ÷ 5 = 3 . To show this division on a number line, we jump 5 divisions from 15 every time until we reach 0. How many times have we jumped to reach 0 ?



Divide 20 by 4 using a number line.



*Long division method

In long term division,we have to follow the steps to get thr quotient and remainder.

Long Division

Divide :	$3\overline{)74}$ (2) → Dividing 7 tens by 3, we get 2 tens, and some extra.
Multiply :	2 / $3\overline{)74}$ / 6 → 3×2 tens = 60 tens.
Subtract :	2 / $3\overline{)74}$ / −6 / 1 → Subtracting 6 tens from 7 tens
Bring down :	2 / $3\overline{)74}$ / −6 / 14 → 1 ten 4 ones = 14 ones
Repeat or find the Remainder :	24 / $3\overline{)74}$ / −6 / 14 / −12 → 3×4 ones = 12 ones. / 2 → Remainder

Let's see some examples:-

Long Division Method

Example 1

Divide 96 by 3.

```
   32
3 ) 96 (
   -9
   ---
    6
   - 6
   ---
    0
   ---
```

Method :

Step 1 : Start with the extreme left digit. Divide the tens by 3.
9 tens ÷ 3 = 3 tens. (3 × 3 = 9)
Write 3 above 9 *i.e.* in the tens' place and subtract the product from the tens digit.
9 − (3 × 3) = 9 − 9 = 0

Step 2 : Write the difference and copy the ones digit 6 below ones' place.

Step 3 : Divide the ones by 3.
6 ones ÷ 3 = 2 ones. (3 × 2 = 6)
Write 2 above 6 *i.e.* in the ones' place and subtract the product from the ones digit.
6 − (3 × 2) = 6 − 6 = 0

Ans. 32

Many a times, we find that a number is not completely divsible. Let us study one such example.

Example 2

Divide 89 by 4.

```
   22
4 ) 89 (
   -8
   ---
    9
   - 8
   ---
    1  <-- Remainder
   ---
```

Remainder indicates that the dividend is not completely divisible by the divisor.

Method :

Step 1 : Divide the tens by 4.
4 × 2 = 8, *i.e.* 8 tens ÷ 4 = 2 tens
Write 2 above 8 *i.e.* in the tens' place and subtract the product from the tens digit.
8 − (4 × 2) = 8 − 8 = 0

Step 2 : Write the difference and copy the ones digit below ones' place.

Step 3 : Divide the ones by 4.
Now, 4 × 2 = 8 and 4 × 3 = 12
Since, 12 > 9, we take 4 × 2 = 8
9 ones ÷ 4 = 2 ones
Write 2 above 9 *i.e.* in the ones' place and subtract the product from the ones digit.
9 − (4 × 2) = 9 − 8 = 1
Here, 1 is called the **remainder**.

Ans. 22

At the end of the sum, if any number remains as remainder than the dividend is not completely divisible by the divisor.

*Word problems

Following steps we have to keep in our mind while solving the story sums.

***Read the whole story.**

***Find out the important factor or key word.**

***Decide what we have to do.**

***Solve the story sum.**

***Check it whether you are correct or not.**

ODM EDUCATIONAL GROUP Changing your Tomorrow

Read the story sums carefully and understand the given information.

Find the fact or the important information.

Decide what to do.

Solve the story sum.

Check your answer.

For example:-

Word Problems

Example 1 36 biscuits are to be distributed equally among 9 children. How many biscuits will each child get ?

Solution :

Number of biscuits = 36

Number of children = 9

∴ Each child will get 36 ÷ 9 = 4

Ans. Each child gets 4 biscuits

$$\begin{array}{r} 4 \\ 9\overline{)36} \\ -36 \\ \hline 0 \end{array}$$

Example 2 74 pencils are to be packed equally in 9 packets. How many pencils will be packed in the boxes ? How many pencils are left over ?

Solution :

Number of pencils = 74

Number of packets = 9

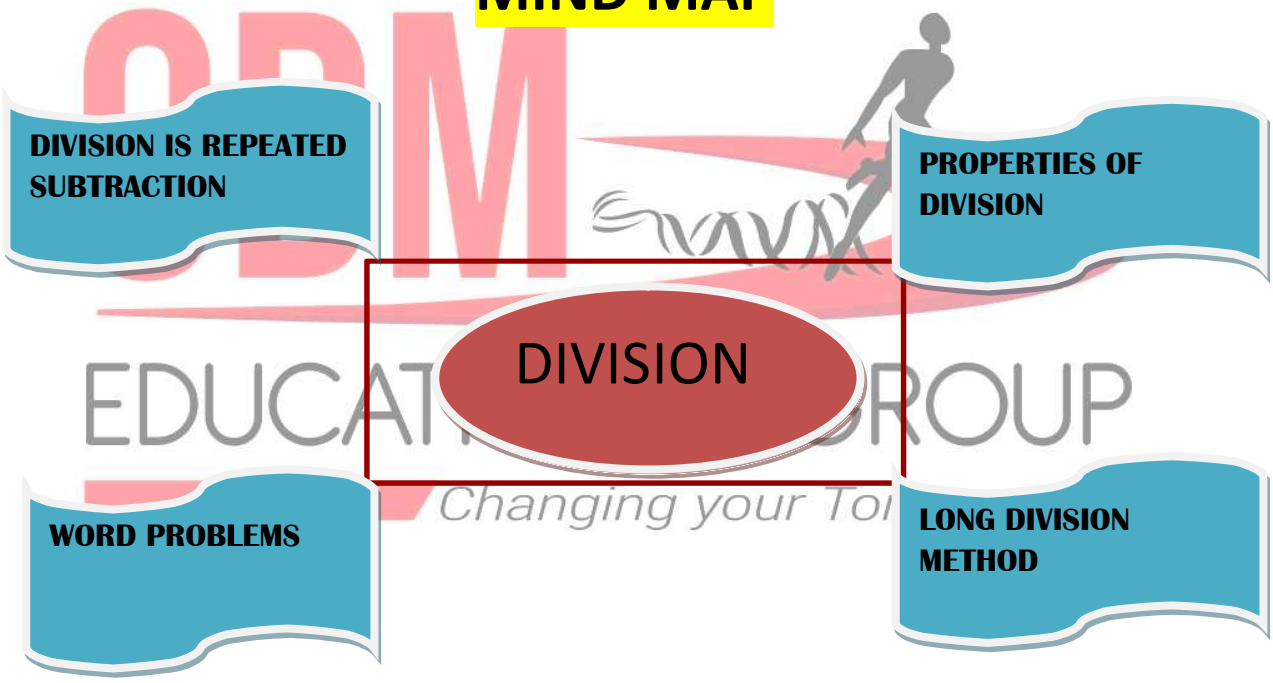
Number of pencils in each box = 74 ÷ 9 = 8

Number of pencils left out = 2

Ans. Each packet will contain 8 pencils and 2 pencils are left out

$$\begin{array}{r} 8 \\ 9\overline{)74} \\ -72 \\ \hline 2 \end{array}$$

MIND MAP


DIVISION IS REPEATED SUBTRACTION
PROPERTIES OF DIVISION
DIVISION
WORD PROBLEMS
LONG DIVISION METHOD